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Alignment: Resolving Ambiguity within Bounded Choices

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Abstract

IS/business alignment has been studied for many years but we do not seem to be any nearer an understanding of the process of alignment. This research, using the grounded theory methodology, indicates that the major concern of IS managers when considering alignment is the ambiguity surrounding the differences between espoused strategies, strategies in use and the actions of business managers that support self-interest. In coping with this ambiguity IS managers at all levels of an organization adopt one of two coping responses: Technological or Collaborative. The choice of response is bounded by various factors making up the Locus of Comprehension and Locus of Control. Each response has certain characteristics that affect both the level and target of alignment. Once a coping response has been established it then becomes extremely difficult to change. The theory has a number of implications in understanding previous research and our investigation into alignment.

Keywords: alignment, strategic alignment, bounded choices, comprehension, control, grounded theory

1 Introduction

Alignment between the IS function and the rest of the organization has been studied for many years as it has remained near the top of IT manager's concerns for a considerable period of time (Brown et al. 1994; Chan et al. 1993; Henderson et al. 1993; King et al. 2000; Lederer et al. 1986; Luftman et al. 2004; Nelson 2001; Papp et al. 1995; Reich et al. 1996; Sabherwal et al. 2001; Teo et al. 1999; Venkatraman 1989). Many of these studies have tended to differentiate between forms of alignment including strategic, IS, structural and business alignment (Henderson et al. 1993; Sabherwal et al. 2003) and between the social and intellectual dimensions of alignment (Reich et al. 1996; Reich et al. 2000). However how alignment is actually achieved remains, to a large extent, a mystery.

Some believe that the way to improving alignment is by better integration of business and IS plans (Kearns et al. 2000; King et al. 2000; Teo et al. 1996; Teo et al. 1997). The argument is that low levels of integration partly as a result of poor planning methodologies result in poor implementation of IS projects. This tends to be supported by the literature (Lederer et al. 1988). An alternative view is that the poor implementation of IS projects may be more due to environmental and organizational volatility resulting in changes in business strategies than due to poor IS planning (Campbell 2004). This alternative view highlights an assumption made by those supporting the integration of planning – that strategies are developed only within a formal planning process and that those strategies contained within the plan will then be implemented.

The business literature indicates that this is not necessarily true (Mintzberg 1988; Mintzberg 1994a; Mintzberg 1994b).

Other writers believe that the relationship between the CIO and CEO is more likely to provide long term alignment than other tactics as it increases shared domain knowledge and collaboration between IS and business units (Chan 2002; Nelson et al. 1996; Reich et al. 1996; Reich et al. 2000). This latter view holds the belief that improving relationships and collaboration will affect the planning process, whether it be formal or informal, and therefore the level of integration of IS and business strategies (and plans).

There is also a plethora of literature on related topics that is often used within the alignment literature such as the CIO/CEO relationship (Feeny et al. 1992), the skill and mind sets required of CIO's (Bensaou et al. 1998; Brown 1993) and the credibility of the IS function (Bashein et al. 1997).

Most of this research has used a positivist research paradigm which may limit our understanding of the phenomenon of alignment (Klein et al. 1999; Klein et al. 2001; Lee 1999; Myers 1997; Myers et al. 1998; Orlikowski et al. 1991a; Orlikowski et al. 1991b; Trauth et al. 2000). It has also tended to produce prescriptions as a result of deductive reasoning (for example the call to improve the integration of IS and business plans), lists of critical success factors (Teo et al. 1999) or lists of the enablers and inhibitors to alignment (Luftman et al. 1999). We have not even agreed on whether alignment is an end state or a process (it is probably both) with some authors changing their minds over the years (Chan 2002; Chan et al. 1997) and have great difficulty in measuring alignment (Luftman 2001). Even the concept of alignment is difficult to understand!

The current research was motivated by the very general question of "What is going on here (in alignment)?" In attempting to answer this question it was decided to use an interpretive research method, grounded theory, analyzing qualitative data. The results indicate that the major concern of practitioners when considering alignment is coping with the ambiguity surrounding the business strategies that are actually in use. The substantive theory presented here shows how participants resolve this ambiguity. The paper then highlights some implications for both the practice of, and research into, alignment.

2 Methodology

The research problem should provide the most influence in selecting a method (Crotty 1998; Trauth 2001). The research paradigm chosen to inform the research which includes the epistemological and ontological views of the researcher should also be enunciated so that readers understand the assumptions being made within the particular research (Crotty 1998; Myers 1997; Orlikowski et al. 1991a; Trauth 2001).

The very general research question provided above (What is going on here?) is often the type of question that is addressed using grounded theory (Fernandez 2004; Glaser 1978; Glaser 1998; Glaser et al. 1999; Strauss et al. 1990; Urquhart 2001). The objective of grounded theory is to develop a mid-level theory that describes the basic social process that subjects utilize to address their major concern within the substantive area being studied. This concern, and the basic social process, is identified from the data collected during the study using an inductive logic rather than the deductive logic that is common in IS research (Fernandez 2004; Urquhart 2001). The induction of a mid-level theory provides relevance to the research whilst the requirements of the grounded theory method provide the rigor to match this relevance (Benbasat et al. 1999; Lee

1999; Lyytinen 1999). Grounded theory, then, is suitable to investigate the type of broad, ill-formed research question given above, and will allow the induction of a substantive mid-level theory of alignment from the data that is both relevant and rigorous. It, therefore, was chosen as the methodology chosen for this research.

This research used a relativist ontology (Guba 1990; Orlikowski et al. 1991a) and constructionist epistemology within an interpretivist paradigm to inform the grounded theory methodology used for this research. Using this theoretical lens provided insights that have not been possible with prior mostly positivist research (Gopal et al. 2000; Trauth et al. 2000).

Initially data was collected via three unstructured focus groups (Morgan 1996) to minimize the impact of prior literature reading as this can adversely affect the induction of theory (Glaser 1992; Urquhart 2001), and to minimize the influence of the facilitator on the range of topics discussed (Berg 1998). The objective was to uncover those issues of importance to practitioners when considering alignment. These could then be further explored during individual interviews. The first focus group consisted of six senior IT managers from various organizations within Australia. The second consisted of three business managers ranging from a managing director to a line manager. The third again consisted of six senior IT managers. As a range of experiences was part of the objective of the sessions the choice of participants was purposive rather than consisting of a representative sample (Morgan 1996). Participants represented a number of organizational sizes from the Australian branches of multi-national corporations to medium sized Australian businesses. Similarly, they were employed at various hierarchical levels within their organizations. None of these people were involved in more than one focus group. The small size of the business manager's group was due to the difficulty of organizing a larger number of very busy people (Morgan 1997; Palmerino 1999; Stewart et al. 1990). Given the circumstances, the objective of the session, the subject for discussion and the knowledge of the participants the small number of business participants was not considered a major issue (Greenbaum 2000; Morgan 1997; Napolitano et al. 2002; Palmerino 1999; Stewart et al. 1990).

During recruitment the subjects were advised of the general area of research, IS/business alignment, but were not given any explicit instructions or reading (Morgan 1991; Morgan 1996; Morgan 1998; Stewart et al. 1990). Immediately prior to the focus group session they were given instructions on how to self-manage the session (Morgan 1996). They were then asked two questions: What do you understand by IS/business alignment, and What are the enablers and inhibitors to alignment? Other than observing, the facilitator (myself) took no further part in the focus group. The subjects were allowed to discuss anything they felt was relevant. Very occasionally when the discussion strayed from the questions a member would remind other members of the focus group to return to the major area of discussion. The groups were allowed to terminate the session when they felt that they had exhausted areas for discussion. Analysis of the focus group transcripts then informed the development of the research instrument used in the individual interviews.

The selection of participants for the individual interviews was purposive and concentrated on the participant's ability to either shed light on particular questions or to expand the discussion area (Fernandez 2004; Glaser 1978; Glaser et al. 1999). The questionnaire was of the rolling type – as each subject was interviewed and the transcript analyzed it would inform the development of the next questionnaire. The interviews were semi-structured – there was a pre-determined set of questions but where it was believed to be desirable the interviewer would investigate leads supplied by the subjects (Stewart et al. 1990). This is in line with the grounded theory

methodology which is inclusive rather than exclusive. The emergent theory must account for all phenomena within the substantive area under investigation (Fernandez 2004; Glaser 1978; Glaser et al. 1999).

In total 16 IS managers and 4 business managers have been interviewed. The interviews ranged in length from 1.25 hours to just over 2 hours. Neither the business manager focus group nor the individual interviews of business managers raised any issues in addition to those raised by the IS managers. As an aim of data collection within the grounded theory method is to obtain variation of data not consistency it was believed that conducting additional interviews with business managers would add considerably to the work without gaining any additional benefit. They were therefore discontinued.

Data analysis followed the Glasserian approach to grounded theory which encourages the emergence of a theory from the data as a result of constantly comparing incidents of codes with each other then abstracting related codes to a higher conceptual level (Glaser 1978; Glaser 1992; Glaser 1998; Glaser et al. 1999). The objective is to find the core category – the problem of most importance to subjects and which explains most of the variance of data. How subjects resolve this major concern (in most instances a basic social process) is, in effect, the grounded theory. The next section illustrates the development of the theory presented in this paper.

3 Development of the Theory

For ease of understanding participants mentioned in this paper have been identified using either an M (business manager) or T (information technology manager) followed by a digit.

3.1 The Central Problem for Participants in Alignment

The initial focus group conducted with IS managers raised an issue that has been central to the development of the theory. This was the ambiguity surrounding espoused business strategies, those normally included within business plans, and the strategies that are actually in use. Espoused strategies may, or may not, be implemented for a variety of reasons. Similarly they may be modified during implementation. The IS managers related a number of reasons for this including: changes in the business environment, the effect of competition between business units, the motivation and measurement systems in place in many organizations and the mental models held by business managers. Combined, these factors mean that strategies that tend to be enacted have certain characteristics however the strategies within most business plans do not exhibit these characteristics. Put simply, strategies that are enacted:

- Must have meaning to the person enacting the strategy. Each person enacting a strategy must know what he or she must do so that the goal can be achieved
- Must be conceptually simple. Many strategies are either visions or motherhood statements such as “We will provide industry leading service to our customers.” What does this actually mean?
- Usually relate to the performance measures for either an individual or business unit.
- Exhibit short term results. This is related to the previous characteristics. To enhance performance measurements the results of any actions must be almost instantaneous.
- Do not require changes in a person’s work habits. That is, they must be simple to execute, must not conflict with the manager’s current mental models of how the organizational system operates, and must not require additional knowledge from outside the manager’s functional area (Campbell 2004).

Simply, formal business strategies are often ambiguous to business managers due to their conceptual nature. The factors discussed above, and shown under either the Locus of Comprehension or Locus of Control in Figure 1, bound the choices that are available to managers when enacting strategies. Some examples are provided below.

T3 is employed by a multi-national software development and consulting firm whose goal was to increase revenue by concentrating on the legal market. It already had about 80% of the Australian accounting software market and there was little room for growth. However, the various business units and sales and marketing teams throughout Australia were ignoring the legal market and still concentrating on the accounting market causing ambiguity for the IS and software development teams. The reason provided for this behaviour was that the marketing and sales teams were concentrating on their commissions. It would take time to learn the new product and then learn how it should be marketed. Their short-term remuneration would suffer.

Another area that created ambiguity for both business and IS managers was a lack of consistency between what senior management promulgated as the organizations strategies and their actions. In the words of M3 "senior management didn't like that, being confronted about what their strategies actually might have been by looking at their actions." He then went on to elaborate "If you followed the official strategy you actually failed. You did the wrong thing because it wasn't what the business wanted. But, often they weren't in a position to say what their strategy was. I mean no company is going to say 'our strategy is to fleece money out of the share market.'" T1 gave further evidence of this inconsistency between words and actions when he said "There were things happening where maybe you call them strategies, but they were more around the interests of the senior managers of the company rather than one that you could map back to what the shareholders may have liked to happen."

Most participants indicated that the influence of the factors shown within the Locus of Comprehension and Locus of Control are often different for various managers. For instance the performance of senior executive managers is more likely to be tied to organization performance whilst the performance measures of lower level managers is more likely to be associated with either that of their small unit or their own efficiency. A result of this enunciated by T1 is that actions at senior levels of an organization are likely to be related to organizational goals (and long term benefits) whilst actions at lower levels are associated with either business unit or individual performance measures and tend to have short-term benefits to the business unit or manager. The goals of different business units, and their managers, are often inconsistent throughout an organization.

The result for IS managers is that they are faced with a mixture of espoused and enacted strategies that are often in conflict with each other. Their major problem, then, is the resolution of this strategy ambiguity. In grounded theory terms, Strategy Ambiguity became the core category. The basic social process (Glaser 1978) that practitioners utilize in Resolving Ambiguity forms the substantive theory. As will be described participants tended to use one of two coping responses, Collaborative or Technological, in resolving strategy ambiguity. Which of these responses they used was determined by many factors (Locus of Comprehension and Locus of Control) that were often outside their ability to manipulate. Due to the factors that bound their choices each of the coping responses has certain characteristics, or properties, which are also shown in Figure 1.

3.2 Resolving Strategy Ambiguity 1 – Develop Relationships and Collaborate

The first solution to resolve strategy ambiguity that was identified was to develop relationships and encourage collaboration – a Collaborative Coping Response (Figure 1): "The reality is that by getting out and getting them [IS managers] to engage with business you get more of an understanding of the informal business strategies, and you've got a lot more chance of building an IT strategy that's fit with them" (T1).

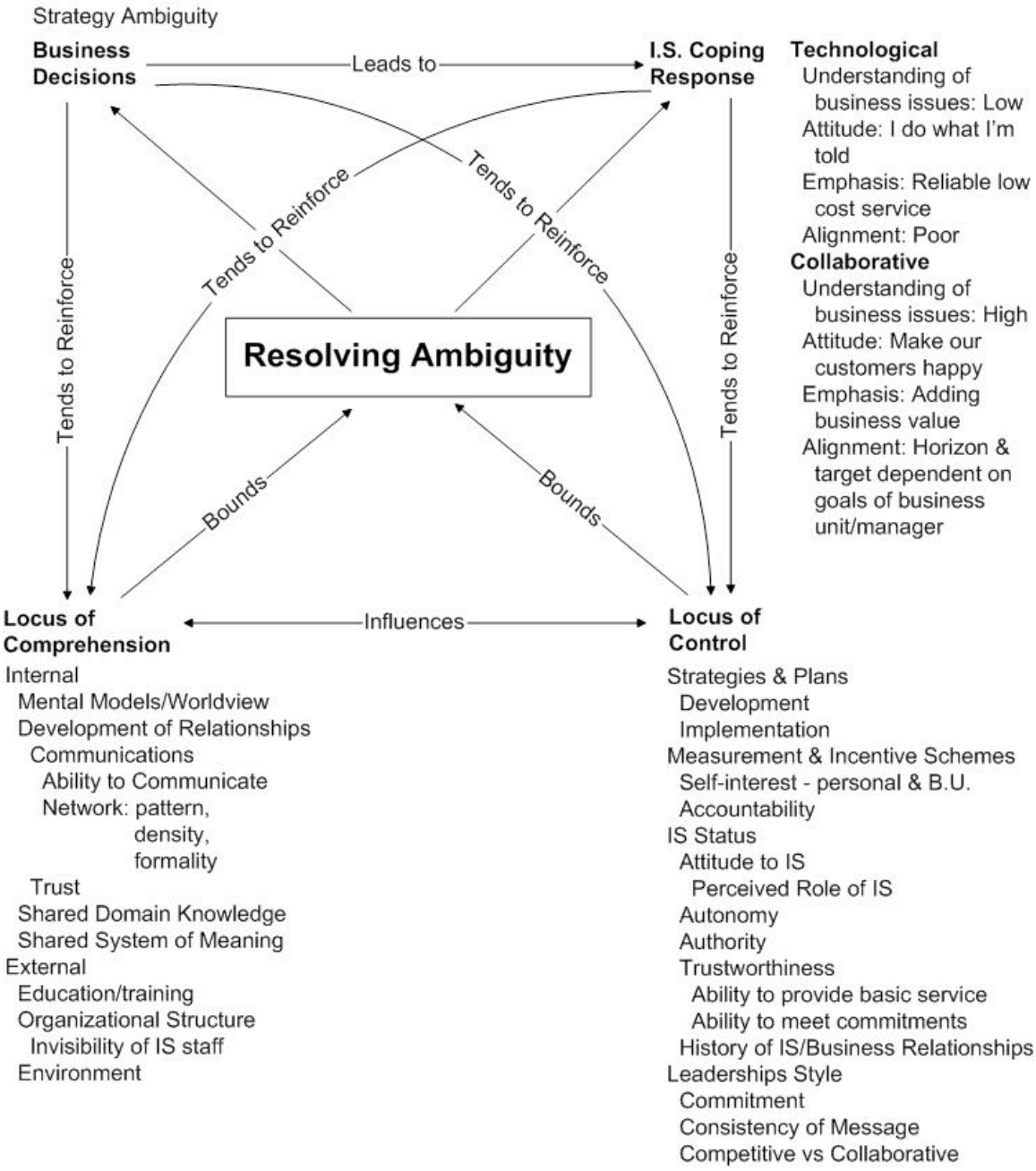

Figure 1. Resolving Ambiguity within Bounded Choices

The participants had a number of goals when developing relationships. These included: gaining information on the strategies that their peer managers were actually implementing (that is, understanding what was happening); gaining the support and assistance of business

managers;building up their own credibility and developing trust with their peers; creating shared domain knowledge (this including their own knowledge of the business and educating other managers, including the CEO, in IS matters); and, eventually, changing the attitudes to IS held by the senior executive team and the business as a whole. This then, it was hoped, would allow a collaborative working environment where the IS function was aligned to what the business was actually attempting to achieve and then be involved in strategy development. Some examples of this are:

"It still comes back to having information about what's really going on, and having information in a timely enough fashion to be able to make reasonably intelligent decisions to alter the course of events. And that comes from not just knowing what's going on in the IT department but knowing what's going on in the broader business and even outside the business. And the real information doesn't come through formal channels. It never does" (T1).

"The challenge is not just to change the IT culture, it's to change the CEO's perception which has been built around that culture. So it's a very difficult job and the only way you do that is through networking. Your personal relationships. Your personal credibility you build first and then they can look through with a different, with a more open mind. Because what you do in a network is break down people's prejudice" (M3). (Note: M3 is currently a senior business manager within a large multi-national consumer goods manufacturer but was previously the CIO of a small telecommunications company.)

"The effect was that with those business units that participated willingly the distinction between the business and IT tended to melt away. So, it was like this shared strategy that, obviously a business strategy, but included things we needed to have included as well. So, there would be staffing policies for IT staff and production staff… The distinction tended to drop away. You still had IT specific things but they tended to be quite operational details" (T1).

When asked about the enablers to alignment T6 responded: "The main thing I think it comes down to is the legitimacy we have within the organization. And that's largely based on the personal relationships between the executives and our management. So that when that breaks down, we've got real problems."

Some results of using this coping response are that shared domain knowledge tended to increase as did shared system of meaning. A flow on effect of this was that the attitude towards IS within the organization tended to be positive. This then created an environment that further encouraged the development of relationships.

Two important aspects of an increased shared domain knowledge was that project goals, deadlines and budgets tended to be more realistic due to an increased awareness by business managers and; there was less negative impact on the IS section if, for some reason, a project did not fully meet its expectations.

All managers, business and IS, interviewed during this research indicated that IS should be reactive to business needs and direction. A result of this belief and the ploy of forming relationships is that IS managers are supporting the goals of their business peers. An observation made by a number of managers (T1, T15, M3) is that personnel rarely develop relationships with those people above them in the organizational hierarchy. The exception is the relationship they develop with their immediate supervisor. That is, relationships tend to be formed horizontally through the business rather than vertically. This is critical for the implementation of strategies

and the resulting alignment. Managers react to the way they are measured. Senior managers are generally measured on corporate performance whilst lower level managers are measured on their personal and business unit efficiency. For this reason T1, T15 and M3 said that, in their experience, alignment with corporate goals and strategies is more likely to occur at senior management level but less so at lower levels of the organization.

If the business manager's goals were directly related to organizational goals and strategies then long term alignment tended to occur. Conversely, if the business manager's goals related to his own performance measures, or those of his unit, then alignment tended to be shorter term. Other identified properties of this response directly related to the development of relationships include: a high understanding by IS managers of their peer business managers' issues; an attitude of "keep our customers happy"; and an emphasis on adding business value. These are shown in Figure 1.

3.3 Resolving Strategy Ambiguity 2 – Can't Work with the Business, So Ignore It.

All of the earlier participants noted the importance of relationships and that they made extensive use of networks within their organizations. But at the same time they kept making the occasional reference to "typical IT people" who could not, or would not, develop relationships as well as noting conditions that inhibited communication and relationship development. The former was often related to the inability of some people to communicate, however numerous other reasons that inhibit communication were given.

In particular, IS Status can have a dramatic affect on the ability of IS managers to initiate communication, the development of relationships and, therefore, to gain an understanding of business issues and strategies in use. In some organizations the perceived role of IS is the provider of a low cost, reliable basic service. In these organizations IS is a cost centre and often reports to the chief financial officer.

Another characteristic of a low status IS unit is that it is not given a budget of its own. All money is tied to explicit projects. Additionally, the IS groups are often not involved in the selection and planning of projects. Often a set of project specifications together with a budget is handed to the IS group without any consultation having taken place (T8, T15, T16, M3). The result is often sub-optimal leading to a belief by business managers that the IS group is not trustworthy reinforcing a low status and adding to a poor history of IS/business relationships.

All of the above results in an environment that effectively limits the actions that an IS manager can make – his actions are controlled, or bound. These, then, are located within the Locus of Control shown in Figure 1. But there are other factors that bound the ability of a manager to comprehend a complex problem – in our case strategy ambiguity.

For the participants of this research the main importance of organizational structure is its ability to prevent lines of communication between business units. In particular the tendency to remove IS from the remainder of the business make it difficult to communicate with business peers and develop relationships. T8 indicated that a company policy was to introduce new staff to every section of the business when they commenced duties. This applied to all new staff – except IS staff. T8 said that she had been employed as the senior IT manager for two years before she was permitted to visit the production section that is located two floors below her office. The organization she works for exhibits all the characteristics mentioned above. A result is that she is unable to have any meaningful dialogue with her business peers.

A result of the lack of communication and development of relationships is that it is difficult to develop a shared system of meaning and shared domain knowledge. As T1 said "… its almost like trying to teach them a foreign language. They can't understand some of the things you want to talk about because they don't have terms in their language for the concepts you want to express." Or as T5 expressed it "If I can demonstrate to someone what happens in my world, and I can see the perspective of their work I think it can work both ways."

But this situation is recursive. Shared systems of meaning, shared domain knowledge and trust are developed through communication. But their lack inhibits the formation of relationships. The situation is exacerbated as the lack of communication and relationships then prohibits the collection of information and limits one's comprehension of a problem situation.

A result of all the above is that communication between the business and IS is severely limited and as a result IS is still "… the mystical thing. Its still a little bit 'black boxy.' Its still 'That's the IT guys sitting over there and we don't want to talk to them and they don't want to talk to us. They're propeller heads and we don't understand what they do, but, oh shit, we better humour them a bit" (T2). Other IS managers also indicated that it was difficult for them to establish any meaningful communication with their business peers (T8, T16, M3). Business managers remain in ignorance of the value of IS and thus restrict its role to that of providing a low cost network, and IS managers never get to understand business problems and the needs of business.

These are all factors that limit one's comprehension of a problem situation, in our case strategy ambiguity, and are shown in Figure 1 under the Locus of Comprehension.

Three organizations were identified where a situation such as that described above existed. Participants were then recruited from these organizations and interviewed (T8, T15, T16, M3). In each of these organizations the IS group was restricted to supplying a reliable low cost service which was tightly controlled by the CFO. Each of these organizations employed outside contractors and consultants to implement new business systems and the internal IS group was not involved. This is significant as one of these organizations is a large multi-national consumer goods manufacturer and a second is a large Australian financial institution that relies totally on its IT to operate. It has an annual IT budget of USD$800million. A low IS status incorporating a poor history of relationships, and a lack of trustworthiness in, and autonomy and authority of, the IS group is not restricted to small organizations or certain industries.

But the quote given by T2 above where business won't talk to IS creates an environment where conditions to change this situation are unlikely to occur. An attitude among IS workers is established where "I do what I'm told" (T15) with little attempt to understand business issues and goals. IS personnel and managers tend to retreat from the business and concentrate on the technology. This response has, therefore, been labeled the Technological Coping Response in Figure 1. This response has a number of other characteristics.

The emphasis is on supplying a reliable low cost service (Figure 1). This is emphasized by the senior management's attitudes in the three organizations where a Technological Coping Response was dominant. Participants from these organizations indicated that senior management didn't understand IT issues, but also didn't want to learn. IT to them was a support function that added little value to the company but created costs. The only advice they wanted from IS management was how to cut IT costs. This was in contrast to the situation described by T7 and M1 both of whom are employed by multi-national consumer goods manufacturers that traditionally place little emphasis on IS. The attitude of management in these two organizations

is that IS can, indeed, provide competitive advantage and as a consequence an environment was created that encouraged the development of relationships between IS and business managers.

The focus on a low cost basic IT service means there is little attempt to align IS with business goals and strategies. That is, there is a low level of alignment (Figure 1).

The above discussion indicates that it is often organizational factors that determine whether IS and business can collaborate in achieving alignment. In many instances the perception of an uncooperative IS unit may be the result of factors outside the control of the IS unit. This does not absolve IS personnel of all responsibility. Their belief systems, ability to communicate and propensity to encourage communication and establish relationships and so understand their business peers issues and goals is still important. When confronted with strategy ambiguity the choices available to IS managers to reduce that ambiguity are bounded by their ability to comprehend the situation, the Locus of Comprehension, and the limits on actions they can take, the Locus of Control. These factors will determine which of the two coping responses they will adopt.

4 Some Implications of the Theory

There have been consistent calls within the IS alignment literature to improve communications with senior business managers, gain senior management commitment to IS strategies and that IS managers should be knowledgeable about the business as well as many others. Teo and Ang (1999) identified many of these issues from the literature then asked senior IS managers to prioritize the list. But, the current research and substantive theory shown in Figure 1 indicates that for many IS managers and groups these recommendations/requirements may be totally beyond the bounds of possibility.

The factors within the Locus of Control tend to be stable over time and generally apply to all IS managers. The effect of this is that a dominant coping response can often be identified within an organization. This is how T8, T15 and T16 were recruited for this research. Organizations exhibiting a Technological Coping Response were sought after earlier participants gave anecdotal evidence its existence. T8, T15 and T16 were recruited to provide primary evidence of this response and to investigate it further. They, and other participants, then indicated that persons comfortable with the dominant response will be attracted to the organization. Those whose personal preference is in conflict with the dominant response will tend to leave. The combination of this together with the general stability of the factors within the Locus of Comprehension and Locus of Control means that changing the overall response to alignment within an organization can be extremely difficult. This is supported by T15 and T16 who are attempting to do just this within their organization.

Previous research has indicated that it often takes an organizational crisis of some kind to gain any significant change in alignment (Sabherwal et al. 2003). But this same research indicates that any change may be short lived. The current substantive theory indicates why this may be. If the underlying attitude to IS by business managers as well as other factors within the Locus of Comprehension and Locus of Control do not change then the likelihood is that after the crisis there will be a return to the pre-existing constraints on managers. The original status quo will return and with it the initial coping response of IS managers.

If a Collaborative Coping Response is adopted the target of alignment is normally determined by the goals of the business manager. These may, or may not be, in alignment with corporate goals

and strategies. Which strategies are implemented, and how they are implemented, is often determined by the performance measurement schemes that are in operation. Lower level business managers attempting to maximize their own performance, or that of their units, can help explain the situation described by (Nordstrom et al. 2003) where the corporate goals for an ERP system were eroded during implementation. This, then, calls into question the usefulness of alignment research that does not consider all levels of an organization but concentrates on either the CEO/CIO relationship or case studies of individual business units.

In her research Chan (2002) identified a number of business units that reputedly maintained high levels of alignment. She then interviewed the CIO's of these units and discovered that all the CIO's placed emphasis on the development of informal networks. The current theory explains the link between high levels of alignment and informal networks.

Finally, referring back to an original question asked of the focus groups, the factors listed under the Locus of Comprehension and the Locus of Control are the enablers and inhibitors to strategic alignment identified by the participants of this research.

5 Limitations of the Research

The major limitation of this research is the small sample size of respondents. However in most instances there was consistency of responses and the theory accommodates all variations of relevant data collected with one exception. T1 described a situation where a CIO of his acquaintance relied entirely on process and formal methods and lines of communication to manage IS and obtain alignment. The essence, as described by T1, is that process and formal methods can replace the development of relationships – personnel can be removed and others "plugged in" (T1) without any effect on outcomes. This could identify an additional coping response based on bureaucracy. But I was unable to identify either an organization or individual who used such a response. Further research may indicate that a bureaucratic coping response does, in fact, occur. In this case the current theory can easily be modified to accommodate the new information. Establishing the existence, or not, of a bureaucratic coping response is important as it appears that much IS research implicitly, but unconsciously, recommends this particular model.

References

Bashein, B.J., and Markus, M.L. "A Credibility Equation for IT Specialists," *Sloan Management Review*), Summer 1997 1997, pp 35 - 44.

Benbasat, I., and Zmud, R.W. "Empirical Research in Information Systems: The Practice of Relevance," *MIS Quarterly* (23:1), March 1999 1999, pp 3-16.

Bensaou, M., and Earl, M.J. "The Right Mind-set for Managing Information Technology," *Harvard Business Review*), September-October, 1998 1998, pp 118-128.

Berg, B.L. *Qualitative Research Methods for the Social Sciences*, (3rd ed.) Allyn & Bacon, Needham Heights, 1998.

Brown, C.V. "The Successful CIO: Integrating Organizational and Individual Perspectives," 1993 Conference on Computer Personnel Research, ACM Press, New York, USA, St. Louis, Missouri, USA, 1993.

Brown, C.V., and Magill, S.L. "Alignment of the IS Function With the Enterprise: Toward a Model of Antecedents," *MIS Quarterly*), December, 1994 1994, pp 371-403.

Campbell, B.R. "The Effect of Emergent Strategies on Alignment," The Eighth Pacific Asia Conference on Information Systems, Fudan University, Shanghai, 2004.
Chan, Y.E. "Why Haven't We Mastered Alignment? The Importance of the Informal Organization Structure," *MIS Quarterly Executive* (1:2), June 2002, pp 97-112.
Chan, Y.E., and Huff, S.L. "Investigating information systems strategic alignment," Proceedings of the Fourteenth International Conference on Information Systems, Orlando, Florida, 1993, pp.,345-365.
Chan, Y.E., Huff, S.L., Barclay, D.W., and Copeland, D.G. "Business Strategic Orientation, Information Systems Strategic Orientation, and Strategic Alignment," *Information Systems Research* (8:2), June 1997 1997, pp 125-150.
Crotty, M. *The Foundations of Social Research: Meaning and Perspective in the Research Process* Allen & Unwin, Sydney, 1998.
Feeny, D.F., Edwards, B.R., and Simpson, K.M. "Understanding the CEO/CIO Relationship," *MIS Quarterly*), December 1992 1992, pp 435 - 448.
Fernandez, W.D. "The Glaserian Approach and Emerging Business Practices in Information Systems Management: Achieving Relevance Through Conceptualisation," in: *Proceedings of the 3rd European Conference Research Methods in Business and Management,* A. Brown and D. Remenyi (eds.), University of Reading, Reading, 2004, pp. 177-186.
Glaser, B. *Theoretical Sensitivity: Advances in the Methodology of Grounded Theory* Sociology Press, Mill Valley, 1978.
Glaser, B. *Basics of Grounded Theory Analysis: Emergence vs Forcing* Sociology Press, Mill Valley, 1992.
Glaser, B. *Doing Grounded Theory: Issues & Discussions* Sociology Press, Mill Valley, CA, 1998.
Glaser, B., and Strauss, A. *The Discovery of Grounded Theory: strategies for qualitative research* Aldine De Gruyter, New York, 1999.
Gopal, A., and Prasad, P. "Understanding GDSS in Symbolic Context: Shifting the Focus from Technology to Interaction," *MIS Quarterly* (24:3), September 2000 2000, pp 509-546.
Greenbaum, T.L. *Moderating Focus Groups* Sage, Thousand Oaks, 2000.
Guba, E.C. "The Alternative Paradigm Dialog," in: *The Paradigm Dialog,* E.C. Guba (ed.), Sage, Newbury Park, 1990, pp. 17-27.
Henderson, J.C., and Venkatraman, N. "Strategic Alignment: Leveraging information technology for transforming organizations," *IBM Systems Journal* (32:1) 1993, pp 4 - 16.
Kearns, G.S., and Lederer, A.L. "The effect of strategic alignment on the use of IS-based resources for competitive advantage," *Strategic Information Systems* (9) 2000, pp 265 - 293.
King, W.R., and Teo, T.S.H. "Assessing the impact of proactive versus reactive modes of strategic information systems planning," *Omega: The International Journal of Management Science* (28) 2000, pp 667 - 679.
Klein, H.K., and Myers, M.D. "A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems," *MIS Quarterly* (23:1), Mar 1999 1999, pp 67-93.
Klein, H.K., and Myers, M.D. "A Classification Scheme for Interpretive Research in Information Systems," in: *Qualitative Research in IS: Issues and Trends,* E. Trauth (ed.), Idea Group, Hershey, 2001, pp. 218-239.

Lederer, A.L., and Mendelow, A.L. "Co-ordination of information systems plans with business plans," *Journal of Management Information Systems* (6:2) 1986, pp 5-19.
Lederer, A.L., and Sethi, V. "The implementation of strategic information systems planning methodologies," *MIS Quarterly* (12:3) 1988, pp 445-461.
Lee, A.S. "Rigor and Relevance in MIS Research: Beyond the Approach of Positivism Alone," *MIS Quarterly* (23:1), March 1999 1999, pp 29-34.
Luftman, J. "Assessing Business-IT Alignment Maturity," in: *Strategic Information Technology: Opportunities for Competitive Advantage,* R. Papp (ed.), Idea Group Publishing, Hershey, 2001, pp. 105-134.
Luftman, J., and McLean, E.R. "Key Issues for IT Executives," *MIS Quarterly Executive* (3:2) 2004, pp 89-104.
Luftman, J., Papp, R., and Brier, T. "Enablers and Inhibitors of Business-IT Alignment," *Communications of the Association for Information Systems* (1 Article 11), March 1999 1999.
Lyytinen, K. "Empirical Research in Information Systems: On the Relevance of Practice in Thinking of IS Research," *MIS Quarterly* (23:1), March 1999 1999, pp 25-28.
Mintzberg, H. "Opening Up the Definition of Strategy," in: *The Strategy Process: Concepts, Contexts, and Cases,* J.B. Quinn, H. Mintzberg and R.M. James (eds.), Prentice-Hall International, Englewood Cliffs, 1988, pp. 13-20.
Mintzberg, H. "Rethinking Strategic Planning Part I: Pitfalls and Fallacies," *Long Range Planning* (27:3), June, 1994 1994a, pp 12-21.
Mintzberg, H. "Rethinking Strategic Planning Part II: New Roles for Planners," *Long Range Planning* (27:3), June, 1994 1994b, pp 22-30.
Morgan, D.L. *Focus Groups as Qualitative Research* Sage Publications, Newbury Park, 1991.
Morgan, D.L. "Focus Groups," *Annual Review of Sociology* (22) 1996, pp 129-152.
Morgan, D.L. *Focus Groups as Qualitative Research*, (2nd ed.) Sage, Thousand Oaks, 1997.
Morgan, D.L. *Planning Focus Groups* Sage, Thousand Oaks, 1998.
Myers, M.D. "Qualitative Research in Information Systems," Originally published in MISQ Discovery, May, 1997, Auckland, NZ, 1997.
Myers, M.D., and Walsham, G. "Exemplifying Interpretive Research in Information Systems: an overview," *Journal of Information Technology* (13) 1998, pp 233-234.
Napolitano, M., McCauley, L., Beltran, M., and Philips, J. "The Dynamic Process of Focus Groups With Migrant Farmworkers: The Oregon Experience," *Journal of Immigrant Health* (4:4) 2002, pp 177-182.
Nelson, K.M., and Cooprider, J.G. "The contribution of shared knowledge to IS group performance," *MISQ* (20:4) 1996, pp 409-429.
Nelson, M.R. "Alignment Through Cross-Functional Integration," in: *Strategic Information Technology: Opportunities for Competitive Advantage,* R. Papp (ed.), Idea Group Publishing, Hershey, 2001, pp. 40-55.
Nordstrom, T., and Soderstrom, M. "Study of Implementing an IT-Impregnated Corporate Strategy," 11th European Conference on Information Systems, 2003.
Orlikowski, W.J., and Baroudi, J.J. "Studying Information Technology in Organizations: Research Approaches and Assumptions," *Information Systems Research* (2:1) 1991a, pp 1-28.
Orlikowski, W.J., and Robey, D. "Information Technology and the Structuring of Organizations," *Information Systems Research* (2:2), June 1991 1991b, pp 143-169.

Palmerino, M.B. "Take a Quality Approach to Qualitative Research," *Marketing News* (33:12), June 7 1999, pp H35-H36.

Papp, R., and Luftmann, J. "Business and I/T Strategic Alignment: New Perspectives and Assessments," Proceedings of the International Conference on Information Systems, 1995.

Reich, B.H., and Benbasat, I. "Measuring the linkage between business and information technology objectives," *MIS Quarterly* (20:1) 1996, pp 55-81.

Reich, B.H., and Benbasat, I. "Factors that Influence the Social Dimension of Alignment between Business and Information Technology Objectives," *MISQ* (24:1) 2000, pp 81-113.

Sabherwal, R., and Chan, Y.E. "Alignment Between Business and IS Strategies: A Study of Propspectors, Analyzers and Defenders," *Information Systems Research* (12:1) 2001, pp 11-33.

Sabherwal, R., Hirschheim, R., and Goles, T. "Information Systems - Business Strategy Alignment:The dynamics of alignment:insights from a punctuated equilibrium model," in: *Strategic Information Management: Challenges and Strategies in Managing Information Systems,* B. Galliers and D.E. Leidner (eds.), Butterworth-Heinemann, Oxford, 2003, pp. 311-346.

Stewart, D.W., and Shamdasani, P.N. *Focus Groups: Theory and Practice* Sage, Newbury Park, 1990, p. 152.

Strauss, A., and Corbin, J. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques* Sage, 1990.

Teo, T.S.H., and Ang, J.S.K. "Critical success factors in the alignment of IS plans with business plans," *International Journal of Information Management* (19) 1999, pp 173 - 185.

Teo, T.S.H., and King, W.R. "Assessing the impact of integrating business planning and IS planning," *Information & Management* (30) 1996, pp 309 - 321.

Teo, T.S.H., and King, W.R. "Integration between business planning and information systems planning: An evolutionary-contingency perspective," *Journal of Management Information Systems* (14:1), Summer 1997 1997, pp 185 - 214.

Trauth, E. "The Choice of Qualitative Methods in IS Research," in: *Qualitative Research in IS: Issues and Trends,* E. Trauth (ed.), Idea Group, Hershey, 2001, pp. 1-19.

Trauth, E., and Jessup, L.M. "Understanding Computer-Mediated Discussions: Positivist and Interpretive Analyses of Group Support System Use," *MIS Quarterly* (24:1), March 2000 2000, pp 43-79.

Urquhart, C. "An Encounter with Grounded Theory: Tackling the Practical and Philosophical Issues," in: *Qualitative Research in IS: Issues and Trends,* E. Trauth (ed.), Idea Group, Hershey, 2001, pp. 104-140.

Venkatraman, N. "The concept of fit in strategy research," *Academy of Management Research* (14:3) 1989, pp 423-444.